ARH3 (m2): 293T Lysate: sc-124990



The Power to Question

BACKGROUND

ARH3 (ADP-ribosylhydrolase 3), also known as ADPRHL2 (ADP-ribosylhydrolase like 2), is a 363 amino acid protein that localizes to mitochondria, as well as to both the cytoplasm and the nucleus, and belongs to the ADP-ribosylglycohydrolase family. Expressed ubiquitously, ARH3 uses magnesium as a cofactor to catalyze the hydrolysis of poly(ADP-ribose) that is synthesized after DNA damage. Via its catalytic activity, ARH3 generates ADP-ribose from poly(ADP-ribose) and is thought to play an important role in the maintenance of normal neuronal cell function. The gene encoding ARH3 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

- Glowacki, G., Braren, R., Firner, K., Nissen, M., Kühl, M., Reche, P., Bazan, F., Cetkovic-Cvrlje, M., Leiter, E., Haag, F. and Koch-Nolte, F. 2002. The family of toxin-related ecto-ADP-ribosyltransferases in humans and the mouse. Protein Sci. 11: 1657-1670.
- Kernstock, S., Koch-Nolte, F., Mueller-Dieckmann, J., Weiss, M.S. and Mueller-Dieckmann, C. 2006. Cloning, expression, purification, crystallization and preliminary X-ray diffraction analysis of human ARH3, the first eukaryotic protein-ADP-ribosylhydrolase. Acta Crystallogr. Sect. F, Struct. Biol. Cryst. Commun. 62: 224-227.
- Oka, S., Kato, J. and Moss, J. 2006. Identification and characterization of a mammalian 39 kDa poly(ADP-ribose) glycohydrolase. J. Biol. Chem. 281: 705-713.
- Mueller-Dieckmann, C., Kernstock, S., Lisurek, M., von Kries, J.P., Haag, F., Weiss, M.S. and Koch-Nolte, F. 2006. The structure of human ADPribosylhydrolase 3 (ARH3) provides insights into the reversibility of protein ADP-ribosylation. Proc. Natl. Acad. Sci. USA 103: 15026-15031.
- Ono, T., Kasamatsu, A., Oka, S. and Moss, J. 2006. The 39 kDa poly(ADP-ribose) glycohydrolase ARH3 hydrolyzes O-acetyl-ADP-ribose, a product of the Sir2 family of acetyl-histone deacetylases. Proc. Natl. Acad. Sci. USA 103: 16687-16691.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610624. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- Niere, M., Kernstock, S., Koch-Nolte, F. and Ziegler, M. 2008. Functional localization of two poly(ADP-ribose)-degrading enzymes to the mitochondrial matrix. Mol. Cell. Biol. 28: 814-824.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: Adprhl2 (mouse) mapping to 4 D2.2.

PRODUCT

ARH3 (m2): 293T Lysate represents a lysate of mouse ARH3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

ARH3 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ARH3 antibodies. Recommended use: 10-20 µl per lane.

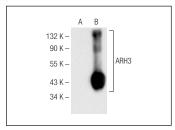
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ARH3 (A-7): sc-374162 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse ARH3 expression in ARH3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



ARH3 (A-7): sc-374162. Western blot analysis of ARH3 expression in non-transfected: sc-117752 (**A**) and mouse ARH3 transfected: sc-124990 (**B**) 293T whole reall lysates

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.